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THE PLANT DISEASE REPORTER

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Division of Mycology and Disease Survey

BUREAU OF PLANT INDUSTRY

UNITED STATES DEPARTMENT OF AGRICULTURE

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The Plant Disease Reporter is issued as a service to plant pathologists throughout the United States. It contains reports, summaries, observations, and comments submitted voluntarily by qualified observers. These reports often are in the form of suggestions, queries, and opinions, frequently purely tentative, offered for consideration or discussion rather than as matters of established fact. In accepting and publishing this material the Division of Mycology and Disease Survey serves merely as an informational clearing house. It does not assume responsibility for the subject matter.

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THE PLANT DISEASE SURVEY

DIVISION OF MYCOLOGY AND DISEASE SURVEY

Volume XXIV Number 12

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FIRST REPORT OF BACTERIAL RING ROT IN ARKANSAS

Seth Barton Locke

The first definitely identified case of bacterial ring rot [Phytomonas sepedonica] in Arkansas was found in a sample of Irish potato plants sent in by E. J. Allen, State Extension Horticulturist, from near Warren, Bradley County, in southern Arkansas. The plants and tubers exhibited the characteristic symptoms and the tubers yielded smears containing large numbers of gram-positive rods less than 1 micron in length which resembled those in smears obtained from a tuber known to be infected with the disease, obtained from Dr. Tolaas of the Minnesota Department of Agriculture. The seed was Minnesota Certified Bliss Triumph obtained from a grocery store. Two other samples from nearby plantings exhibited wilt symptoms typical for the disease but the tubers showed no vascular discoloration and smears contained no gram-positive bacteria.

(Arkansas Agricultural Experiment Station. June 17).

APPEARANCE OF AZALEA FLOWER SPOT IN TEXAS

A. A. Dunlap

The first positive cases of Ovulinia azaleae Weiss attacking azaleas in Texas were noted during March and April 1940 in the Houston area. Nurserymen in this region recall somewhat similar symptoms on azaleas in recent years but identification of the nature of these earlier troubles was not made. The disease was found to be most severe on a number of azalea varieties belonging to the Indian group, while, as usual, the Kurume forms were not attacked. Symptoms varied from spotting of a few petals to wilting of all blossoms over the entire plant. Local growers believe that the disease was introduced into this area through importation of plants from other regions where the disease is already prevalent. The removal of all old blossoms and mulch from around the plants during the summer is being advised in an attempt to reduce the amount of carry-over through the summer. Quarantine steps are being taken to require the mulch to be removed from all azalea plants, followed by a disinfectant dip, before being admitted into the State.

(Texas Agricultural Experiment Station, College Station).

TULIP FAILURE

"THIS SPRING'S TULIP FAILURE": P. P. Pirone, in the Nursery Disease Notes of the New Jersey Agricultural Experiment Station (vol. 12, no. 11, May 1940), states that the unusually poor condition of tulips this spring has attracted considerable attention in the metropolitan New York area, as evidenced by the articles in the newspapers and horticultural magazines. His examination of tulip beds and of material received from at least 20 tulip enthusiasts and seedsmen in New York, New Jersey, and Pennsylvania has shown a constant association of Botrytis tulipae, Penicillium sp., or Rhizoctonia tuliparum, with many of the rotting bulbs, and while poor drainage, low winter temperatures, and a wet spring may have been contributing factors, one or the other or some combination of these organisms is believed to be the primary cause of the rotting of the bulbs. Rhizoctonia tuliparum was found on approximately one-half of the specimens examined, its identity being confirmed by H. H. Whetzel, to whom sclerotia were submitted. Botrytis tulipae is most commonly considered a parasite of the leaves and flower petals, but because of conditions prevalent since the tulips were planted last fall this fungus has also produced rotting of stems and outer bulb scales. The lesions caused by the different fungi are described and control measures discussed.

A DESTRUCTIVE OCCURRENCE OF BOTRYTIS BLIGHT OF TULIPS IN MICHIGAN was reported by a grower at Ann Arbor, who wrote, May 19, that of her several thousand tulips whole beds had been destroyed. The correspondent also stated that she knew of another case some miles away of the destruction of tulip beds in new ground. The foliage of the plants accompanying the letter showed no evidence of Botrytis blight. The bulbs bore no sclerotia on the surface or within. The stems and leaf bases for an inch or two near the soil line were thickly encrusted with black sclerotia of medium size. The symptoms did not resemble those of Botrytis blight, but the fungus was determined as Botrytis tulipae by F. L. Drayton of the Canadian Department of Agriculture, to whom the specimens were submitted, with the comment, "If B. Tulipae is truly responsible for all of the damage reported in this case, it can only be explained on the basis of an unusual strain of the fungus or a combination of peculiarly favourable and exceptional soil conditions, moisture, and temperature." (Freeman Weiss, Division of Mycology and Disease Survey).

[See also PDR 24: 206, June 1, for a report of gray bulb rot and botrytis blight in New Jersey, by Cynthia Westcott.]

TOBACCO DISEASES IN KENTUCKY

W. D. Valleau and E. M. Johnson

Wildfire and angular leaf spot [Phytomonas tabaci and P. angulata]: These bacterial leafspots appeared in beds in the southern tier of counties May 4, about two weeks later than in previous years. A cold, rainy spring prevented preparation and sowing of beds so that plants were 10 to 14 days later than usual. In the southern area fewer beds were affected and damage was less than in previous years; nevertheless, many beds were seen where these diseases, especially wildfire, caused marked damage. Where infections were numerous on the plants growth was retarded and setting was delayed. A few days after a cold, rainy period from May 23 to May 26, both diseases appeared in beds previously free of infection. In central and northern Kentucky the cold, rainy period started on May 20 and continued until May 29. Night temperatures were as low as 52°F. In these areas plants were about half to two-thirds large enough to set and were tender and very susceptible to bacterial infection. In treated beds where infection did not subsequently develop, small water-soaked spots were sometimes abundant on the leaves and their distribution was similar to that of incipient angular leafspots in infected beds. Angular leafspots were more numerous on the tip two-thirds of many leaves. The epidemic of wildfire and angular leafspot in beds from the south-central part of the State to the Ohio River was the most severe on record. Angular leafspot was almost universally present and wildfire was found in areas where it had not been seen before. During this epidemic beds observed that had received Bordeaux were free of both diseases, with the exception of three plants affected with angular leafspot in one bed in an area where water washed across the bed. Reports were received from many county agents that Bordeaux-treated beds completely escaped infection during the epidemic. Many growers believed their plants were being injured by blue mold.

Table 1. Wildfire and angular leafspot in treated and untreated tobacco plant beds in Kentucky.

Tobacco type	Untreated beds					Beds treated with Bordeaux				
	WF± No. of beds	ALS No. of beds	WF & Als: No. of beds	Blue mold	Total beds observed	WF No. of beds	ALS No. of beds	WF & Als: No. of beds	Blue mold	Total beds observed
Dark fire cured	14	18	9	19	133	0	0	0	5	95
One sucker	17	7	9	15	101	0	0	0	4	44
Burley	19	103	40	52	232	0	1*	0	11	84

± = WF = wildfire; Als = angular leafspot.
* = 3 plants in area where water washed across bed.

Wildfire, although present in fewer beds, was more destructive than angular leafspot. Many plants affected with wildfire were killed or were dwarfed so badly from systemic toxin that they did not become large enough to set. After May 29 temperatures were high and angular leafspot-affected plants grew rapidly; however, at setting time only the new leaves were free of spotting and the plants had a ragged appearance. As in years past, wildfire and angular leafspot were the most destructive plant-bed diseases in Kentucky. The results of a survey of plant beds are given in Table 1.

Blue mold [Peronospora tabacina]: Blue mold was observed in south Christian County near the Tennessee border on May 19. The disease appeared about a week earlier in Montgomery and Robertson Counties, Tennessee, in beds used in 1939. Four cloudy days with an occasional local shower and low night temperatures followed after May 19. Rains started on May 23 and continued for 4 days. During this period night temperatures were as low as 58°F. Cool temperatures at night (60 to 70°) continued until June 2. Despite these favorable conditions for blue mold development, little of the disease could be observed until about June 3 or later. On this date a few infected areas were observed in many beds. Usually only the flecking stage developed. As in years past, blue mold developed in plants ready to set, and little or no damage resulted. The only injury from blue mold observed was in 2 beds in dense shade, and even in these a large percentage of the plants survived and recovered rapidly. Very little blue mold appeared in beds north of the southern tier of counties. It is believed, from experience in this and in previous years, that blue mold is not likely to cause serious trouble in Kentucky except in years when the disease appears early and extensively in Georgia and the Carolinas, when a large number of spores may be carried north by winds. The only recommendations being made are to use new bed sites each year in places where they can get maximum sunlight.

Cold injury: Following the cold, rainy weather, soon after the plants were the size of a dime or larger, cold injury developed in beds throughout the State. The bud leaves turn white and the partially developed leaves appear constricted and white along the edges of the distal portion. Recovery was rapid following the advent of warm weather and no damage resulted.

Injury from excess fertilization: Often small to extensive areas of small, lemon-yellow plants appear in bed. These plants usually develop lesions at the soil surface and, if small, soon wither and die. If of medium size, new roots are formed above the soil surface but the plants rarely become large enough to set. Often these areas are in depressions in the beds where excess salts have accumulated. Often in areas where the plants are yellowed and dwarfed, salts are present as precipitates on the soil surface. Analyses by the Soils Department from areas in beds where plants are yellowing and dying show that these areas contain many times more soluble salts, especially nitrate-nitrogen, than

areas in the same bed where plants are making normal growth. This type of injury was common in many beds in the southern area and in some cases materially reduced the stand of plants.

Sclerotinia stem rot: About a dozen Burley plants affected with stem rot were observed in a bed near Cedar Hill, Tennessee. The plants, ready to set, were girdled with a soft rot near the soil surface. Abundant white mycelium covered the lesions and the leaves were yellowed and wilted. A fungus tentatively identified as Sclerotinia sclerotiorum was isolated. (Kentucky Agricultural Experiment Station).

REPORTS ON DISEASES OF CEREAL CROPS

BACTERIAL WILT OF SWEET CORN ON LONG ISLAND: Stewart's wilt [Phytomonas stewarti] of sweet corn has been found in Nassau County, in both North and South Shore plantings. (Orson S. Cannon, Weekly News Letter, June 17).

REPORTS ON CEREAL DISEASES FOR GEORGIA: Leaf rust (Puccinia triticina) [P. rubigo-vera tritici] on wheat was first noticed on the Agronomy Plats at Athens on April 11, and by May 1 had attained a maximum intensity on the early varieties. This was just about the time for fertilization. The late varieties reached this point about 3 to 4 weeks later when they were in the milk or even dough stage. The variation in growth stage of varieties for the period in which 100 percent rust was observed on the leaves was so great that the loss is estimated as varying from 8 percent on the most resistant to 45 percent on some very susceptible varieties. One variety, a Brazilian introduction, went through the entire season at Athens and also on a farm in Washington County with no observable rust.

Rust on farms was much less than on the plats. On May 1 when there was much rust at Athens there was practically none in Washington County, and only a trace on commercial farms in counties surrounding Athens. About May 13 to 14 the writer inspected wheat fields between Athens and Tifton in south Georgia. At that time most of the plants were in milk or dough stage and leaf rust infection about 5 to 10 percent. Another inspection was made June 7 from Clarke to Washington County, when most of the crop seemed to have matured with almost no rust. On the farm already mentioned in the latter county, this year there were 1300 acres in wheat, with only a trace of leaf rust at a late stage. Stem rust (Puccinia graminis f.) was observed near spots that were heavily infected 2 years ago. However, this rust came too late to cause much damage. The average loss for the State then should be much less than for an average year and probably would be from 5 to 10 percent.

Powdery mildew (Erysiphe graminis f.) was found only on certain varieties on the plats and was not seen on commercial farms.

Loose smut (Ustilago tritici) was found in all fields of wheat inspected and ran from about a trace to 2 percent.

The crown rust on oats (Puccinia coronata) was of no importance this year. Most fields even in south Georgia showed none when the oats were in the dough stage. The long drought of last fall, coupled with the unusually cold winter, will probably account for the unusually light rust infection for both wheat and oats. (J. H. Miller, University of Georgia).

CEREAL RUSTS IN THE SOUTHERN PLAINS STATES: On a trip through southern Kansas, Oklahoma, and Texas, beginning on May 21 and ending May 28, observations were made along the route on the development of rust and the wheat crop.

Stem rust of wheat was found as far north as Medford, Oklahoma, on May 22. From there southward through central Oklahoma the amount of stem rust gradually increased. In north-central Texas and at College Station in south-central Texas, stem rust of wheat was extremely heavy. Rains have fallen over this entire area within the past 10 days and it was extremely wet at Denton.

It was noted that there are thousands of acres of extremely late winter wheat in south-central Kansas and north-central Oklahoma. The lateness of the crop seems to have been due to late germination and a very backward spring. Even on May 28 there were large areas in many fields between Enid, Oklahoma, and Wichita, Kansas, that had not yet headed. This late crop appears to be menaced by stem-rust infection. So far the spring has been cool and, should it remain so, infection may not be so heavy as expected; however, hot weather is expected shortly and the late wheat probably will be damaged either by rust or hot weather.

Leaf rust of wheat is very backward in its development throughout the southern and central Plains area. Very little leaf rust was encountered in Kansas and Oklahoma.

A little crown and stem rust of oats were observed at Denton, Texas, but the large acreage of oats in southern Kansas, Oklahoma, and northern Texas seems to be almost free from rust infection. (C. O. Johnston, May 29. Cereal Courier 32: 74. June 10).

STEM RUST SEVERE ON WHEAT IN CALIFORNIA: April 28 -- Californians are becoming concerned about stem rust. In the Imperial Valley, where the crop is being harvested, a loss of 60 to 70 percent on the

16,000 acres in the Valley has occurred. In the two leading varieties, Ramona and White Federation, the damage was about equal. Only one field of Ramona (early seeding) was seen that was plump enough for milling use, and many were complete failures.

Grain in Riverside County is badly rusted, and stem rust on wheat occurs generally over the San Joaquin Valley. Barley has not rusted much anywhere, but oats are being hit hard in several sections.

May 14 -- The cereal rusts are continuing their "blitzkrieg" in California and now are serious, or threaten to be before maturity, in all important producing areas. Recently, losses up to 75 percent have been reported in the variety Ramona now ripe in southern counties of the San Joaquin Valley. Some late fields in central San Joaquin are now certain to be complete failures from rust. (C. A. Suneson, Division of Cereal Crops and Diseases. Cereal Courier 32: 51, May 10; 70, May 25).

REPORTS ON FRUIT DISEASES

NEW YORK (from Weekly News Letter, June 17 and June 27): Apple scab [Venturia inaequalis] was reported as generally present, but under control in most commercial orchards. It is potentially a factor of importance, however, as indicated by reports from A. J. Nichols in Orleans County, "Orchards sprayed according to the spray service schedule are comparatively clean. Growers who have missed one or two sprays or were late in their application have a serious scab problem. To date apple scab is more serious than in any year since 1935" (June 27); from C. G. Small in Ulster County, "Apple scab infection continues to be one of the major factors in many orchards. Practically no scab can be found on the fruit in sprayed orchards, but nearly all trees show some scab on the leaves, especially in the tops. Occasionally leaf infection is severe. Many growers have used lime sulfur to burn out the scab, and have obtained fair results without too much leaf injury" (June 27); from A. T. Williams in Dutchess County, "Apple scab appears to be a universal and serious problem in all except the best sprayed orchards" (June 27).

Rust [Gymnosporangium spp.] is reported on apple leaves and fruit in southeastern New York, as follows:

Rockland County -- Apple rust [G. juniperi-virginianae] is not going to be as serious this year as one would expect. Even in the most favorable locations the leaves are fairly free. (W. J. Clark, June 27).

Orange County -- Quince rust [G. clavipes] has taken quite a toll this year. Counts made on Cortland showed 20 percent injury of the fruits remaining on the trees in orchards that did not receive a blossom spray. Counts in one Northwestern Greening orchard showed over 25 percent of the fruits injured. McIntosh and Delicious orchards also show serious injury where no bloom spray was applied. (J. Van Geluwe, June 27).

Ulster County -- Quince rust and apple rust infections can occasionally be found on the fruit, while leaf infection (probably both apple and hawthorn [G. globosum]) can readily be found on many varieties, including McIntosh. (C. G. Small, June 17).

Dutchess County -- Quince rust appears to be very plentiful on McIntosh, Cortland, and Delicious. The extent of damage is undeterminable yet. Apple rust is not serious as yet, but may prove to be worse than it appears now on closer examination. Galls are still discharging. (A. T. Williams, June 17).

Frog-eye leaf spot [Physalospora obtusa] was reported as unusually common in Rockland and Columbia Counties by W. J. Clark and R. W. Tousey, respectively. (June 17).

Brown rot [Sclerotinia fructicola] was still prevalent on cherries, although its spread seemed to have been checked somewhat, in some cases because of spraying. According to a report from A. J. Nichols, in Orleans County, "Brown rot has caused more damage at this time of year on both sweet and sour cherries than any other year of the last seven. The northern portion of the county has suffered more from this disease than the southern portion. The disease has damaged the crop to such an extent in certain orchards of the Lyndonville area that it is doubtful whether they will be worth picking" (June 10). In most counties it was said not to be serious on peaches, although in Niagara County, according to J. G. Goodrich, "Brown rot has caused considerable damage to peaches, it having gone from the blossoms down into the twigs and even small branches in some cases. All varieties are affected but Rochester and Early Elberta seem most injured" (June 17). Prunes were reported attacked by brown rot in Orange and Niagara Counties.

"Currants have been injured considerably in some plants by Botrytis (?) rot," in Ulster County, according to C. G. Small. "Further damage may develop if wet weather should occur again." (June 17).

WISCONSIN: Primary infection of apple scab was heavier than it has been for several seasons. The first ascospore discharge was noted in Dane County on April 25; in Crawford County on April 27. Ascospores were mature in Door County on April 18, but no discharge took place until May 8 to 9. A heavy discharge occurred on May 20 to 21. Scab spots were evident on leaves in Dane County on May 21. Secondary spots are showing at the present time.

Expanded spore horns of the red cedar galls of the apple rust fungus have been observed since the rains of May 7 and 8 in Crawford County, and were abundant in Dane County after the rains of May 24.

Active fire blight [Erwinia amylovora] cankers on apple were found in Crawford County on May 18. Their condition indicated activity for possibly a week.

Ascospores of the cherry leaf spot fungus [Coccomyces hiemalis] were mature in Door County by May 20 when a very light discharge occurred. Present conditions are favorable for the development of the disease. (R. E. Vaughan, Wisconsin Agricultural Experiment Station. June 12).

LITERATURE NOTES

"IDENTITY OF THE BACTERIUM CAUSING POTATO BLACKLEG": W. J. Dowson (in Nature 145: 263. 1940) disagrees with Leach's conclusion that the blackleg organism is identical with, or at most a variant of, Bacterium carotovorum (Erwinia carotovora). He states that the differences between the organisms are good specific differences and that the name of the blackleg organism should be Bacterium phytophthorum (Appel) n. comb. "To sum up, blackleg is caused by a specific organism, B. phytophthorum, which also produces a soft rot in potato tubers and other plant tissues. Another and distinct organism, B. carotovorum, produces a similar rot in tubers, etc., but not blackleg of potato stems. The former produces acid in maltose; the latter does not. Potato tubers found in a rotted condition may harbour one or both organisms."

POSSIBLE RELATION OF SYMPTOMLESS HOST PLANTS TO THE ABUNDANCE AND FLUCTUATION OF BACTERIAL WILT OF CORN: According to F. W. Poos, all field collections of the corn field beetle, Chaetocnema pulicaria, the principal vector of Phytomonas stewarti, have yielded consistently a certain proportion carrying the wilt organism regardless of conditions under which they were collected. Under some of these conditions it seemed improbable that the contaminated beetles could have had an opportunity to feed on wilt-infected corn locally, especially on corn showing external symptoms, or that they could have migrated from other areas in sufficient numbers to account for the proportion of contaminated beetles found. Experiments designed to answer the question as to the source of the contamination showed that a number of grass species could harbor the organism without showing symptoms of the disease, including: corn (field, Golden Cross Bantam, and Gill Brothers' Golden Bantam); crabgrass, Digitaria sp.; fall panicum, Panicum dichotomiflorum Michx.; Job's-tears, Coix lacrymi-jobi L.; Kentucky blue grass, Poa pratensis L.; orchard grass, Dactylis glomerata L.; redtop, Agrostis alba L.; Sudan grass, Sorghum vulgare var. sudanensis (Piper) Hitchc.; wheat, Triticum aestivum L.; yellow bristle grass, Setaria lutescens (Weigel) F. T. Hubb. It seems highly probable that such symptomless host plants occur under field conditions and that they may have an important relation to the abundance of wilt in corn. This probable occurrence is another factor to be

considered in explaining the variations in abundance of wilt in sweet corn and field corn from year to year and its decreasing abundance in sweet corn within a season. "There appears to be much need for further information regarding the many factors involved before reliable forecasts and explanations of variations in the abundance of bacterial wilt of corn can be made." (Poos, F. W. Host plants harboring Aplanobacter stewartii without showing external symptoms after inoculation by Chaetocnema pulicaria. Jour. Econ. Entom. 32: 881-882. Dec. 1939).

A TRANSMISSIBLE GRAFT BLIGHT OF LILACS: Kenneth M. Smith notes a condition of lilacs which is apparently due to a virus and which is under investigation at the Plant Virus Research Station, Cambridge, England. The disease seems fairly widespread. Symptoms are "mottling and thickening of the leaves, and in-rolling of the edges, together with extreme brittleness. The leaf-rolling later becomes very marked and the leaves are easily detached. We have transmitted this disease by grafting diseased scions on to healthy stock, but we have not yet discovered the insect vector if such exists." (Smith, Kenneth M. Graft-blight of lilacs. Gard. Chron. III, 107: 144. March 23, 1940. Photograph on page 139, Fig. 61).

CHECK LIST REVISION

Freeman Weiss

ABUTILON

ABUTILON spp. FLOWERING MAPLE. Cult.

Heterodera marioni (Cornu) Goodey, rootknot. Ala.
Puccinia heterospora (Berk. & Curt.), rust. On various Abutilon spp., widely distributed; autoecious.
Verticillium albo-atrum Reinke & Berth., wilt. N. J.
Chlorosis, variegation. Abutilon virus 1 (Baur) K. M. Smith (Marmor abutilon Holmes). Various Abutilon spp., when infected with this virus (especially A. striatum var. thompsoni Veitch) are cultivated as variegated ornamentals.

ABUTILON HIRTUM (Lam.) Sweet

Cercospora brachypoda Speg. P. R.

ABUTILON THEOPHRASTI Medic. VELVET LEAF. Naturalized in waste areas near cities.

Alternaria abutilonis Speg. Ind., N. J., N. Y., W. Va.
Cercospora abutilonis Tehon & Daniels, leafspot. Ill.
Cercospora althaeina Sacc., leafspot. Kans.
Phyllosticta althaeina Sacc., leafspot. W. Va.
Phymatotrichum omnivorum (Shear) Dug., root rot. Texas.
Puccinia heterospora Berk. & Curt., rust. Widespread.

ACACIA

ACACIA spp.

Armillaria mellea (Vahl) Fr., mushroom root rot. Occasional.
Cephaleuros virescens Kunze, algal leaf spot. Fla.
Coniothyrium decipiens Cke. & Harkn., on branches. Calif.
Cylindrocarpon obtusisporum (Cke. & Hark.) Wr., on twigs. Calif.
Diaporthe medusaea Nit., on twigs. Calif.
Diplodia spp. Several reported on branches, phyllodes and leaves; possibly all D. mutila (Fr.) Mont. (imperfect stage of Physalospora mutila (Fr.) Stevens). Calif.
Fomes applanatus (Wallr.) Gill., heartwood rot. Calif.
Fusarium lateritium Nees (conidial stage of Gibberella baccata (Wallr.) Sacc.), on twigs. Calif.
F. coccophilum Desm. (conidial stage of Nectria coccophila (Tul.) Wr.), on branches. Calif.
Heterodera marioni (Cornu) Goodey, root knot. On cult. spp. Occasional.
Nectria ditissima Tul. and Nectria sp., twig & branch canker. Calif., S. C.
Phymatotrichum omnivorum (Shear) Dug., root rot. Tex.
Physalospora fusca Stevens, leafspot. Fla.
Schizophyllum commune Fr., sapwood rot. Calif.
Strumella acaciae Cke. & Harkn., on twigs & branches. Calif.
Gummosis. Physiogenic, usually associated with deficient & irregular soil moisture. Calif.

ACACIA ANGUSTISSIMA (Mill.) Ktze. PRAIRIE ACACIA. Growth regions 11, 16, 17, 20.

Ravenelia igualica Arth., rust. Tex. An autoecious genus, mostly on leguminous hosts.

ACACIA CONSTRICTA Benth. MESCAT ACACIA. Growth regions 10, 11, 14, 16, 17.

Ravenelia thornberiana Long, rust witches'-broom. Ariz., Tex.

ACACIA CYCLOPS Cunn. Cult.

Erysiphe polygoni DC., powdery mildew. Calif.

ACACIA FARNESIANA (L.) Willd. SWEET ACACIA, HUISACHE. Growth regions 5, 10, 11, 17, 20, 29, 30.

Clitocybe tabescens (Scop.) Bres., mushroom root rot. Fla.
Ravenelia australis Diet.& Neg., rust. Tex.
R. hieronymi Speg., rust witches'-broom. Tex.
R. siliquae Long, rust. T. H., N. M., Tex.

ACACIA GREGGII Gray, LONG-FLOWERED CATCLAW. Growth regions 5, 9, 10, 11, 16, 17, 20.

Phoradendron californicum Nutt., mistletoe. Calif., Tex.
Ravenelia versatilis (Pk.) Diet., rust. Ariz., Calif., N. M., Tex.

ACACIA KOA

Fomes australis Fr.
F. fasciculatus Burt.
F. fullagari (Berk.) Cke.
Lophodermium acacicolum Tehon, leaf spot. T. H.
Meliola koae Stevens, sooty mold. T. H.
Uromyces koae Arthur, rust. T. H.

ACACIA RIPARIA H. B. K.

Ravenelia stevensii Arth., rust. P. R., St. Thomas.

ACACIA ROEMERIANA Scheele, ROUND-FLOWERED CATCLAW. Growth regions 11, 16, 17, 20.

Phoradendron flavescens, mistletoe. Tex.
Ravenelia roemerianae Long, rust. Tex.

ACACIA TORTUOSA (L.) Willd. CATCLAW. Growth regions 11, 17, 20.

Ravenelia subtortuosae Long, rust witches'-broom. Tex.

ACACIA SUFFRUTESCENS Rose

Ravenelia gooddingii Long, rust. Ariz.

ACACIA WRIGHTII Benth. TEXAS CATCLAW. Growth regions 10, 11, 16, 17, 20.

Phyllachora texana Tharp., leaf spot. Tex.

AESCULUS

AESCULUS spp.
Armillaria mellea (Vahl.) Fr., mushroom root rot. Cosmopolitan.
Botryosphaeria ribis var. chromogena Shear et al., twig blight. Md., N. Y.
Diaporthe eres Nit. (Phomopsis coneglanensis (Sacc.) Trev.), on petioles & twigs. Cosmopolitan.
Fomes applanatus (Wallr.) Gill., heartwood rot. Cosmopolitan.
Guignardia aesculi (Pk.) V. B. Stewart, leaf blotch. General. Its imperfect stage is Phyllosticta sphaeropsoidea Ell. & Ev., with the following synonyms: Phyllosticta aesculi Ell. & Martin, P. aesculicola Sacc., P. aesculina Sacc., P. paviae Desm., P. paviaecola Brun.
Monochaetia desmazierii Sacc., leaf spot. N. C.
Nectria cinnabarina (Tode) Fr. (Tubercularia vulgaris Tode), twig blight & canker. Cosmopolitan.
Physalospora obtusa (Schw.) Cke. (Sphaeropsis malorum Pk.), on twigs & branches. N. J., N. Y.
Uncinula flexuosa Pk., powdery mildew. Widespread in central & eastern States.
Leaf scorch, non-parasitic. Frequent in street trees during hot weather.

AESCULUS CALIFORNICA (Spach.) Nutt. CALIFORNIA BUCKEYE. Growth regions 1, 3, 4, 5.
Cylindrocarpon album (Sacc.) Wr. (Nectria coccinea (Pers.) Fr.), on twigs. Calif.
C. chromogenum Wr. (conidial stage of Neonectria caespitosa (Fckl.) Wr.), on twigs. Calif.
Cryptodiaporthe aesculi (Fckl.) Petr. (Septomyxa aesculi Sacc.), on twigs. Calif.
Fusarium scirpi var. acuminatum (Ell. & Ev.) Wr. (conidial stage of Gibberella acuminatum Wr.), die-back. Calif.
Glocosporium carpigenum Cke., on pericarps. Calif.
Mycosphaerella maculiformis Schröt., var. hippocastani Jaap (Septoria hippocastani Berk. & Br.), leaf spot. Calif.
Phoradendron villosum Nutt., mistletoe. Calif., Oreg.
Phyllactinia corylea Karst., powdery mildew. Calif.
Taphrina aesculi (Pattors.) Giesenh., witches'-broom. Calif.

AESCULUS CARNEA Hayne (A. hippocastanum X A. pavia). RED HORSE-CHESTNUT
Uncinula flexuosa Pk., Ind., Pa.

AESCULUS GLABRA Willd. OHIO BUCKEYE. Growth regions 22, 24, 25, 27, 29; including var. arguta Buckl., Texas buckeye, which occurs in Region 30.

Aecidium aesculi Ell. & Kellerm., rust. Ind., Kans., Nebr.
Guignardia aesculi (Pk.) V. B. Stewart, leaf blotch. General.
Macrosporium baccatum Ell. & Ev., leaf spot. Kans.
Phoradendron flavescens Nutt., mistletoe. Central & southern States.
Septoria glabra Ell. & Ev. (=hippocastani?), leaf spot. Ind.
Uncinula flexuosa Pk., powdery mildew. N. Y. to Kans.

AESCULUS HIPPOCASTANUM L. HORSE CHESTNUT. Cult.

Collybia velutipes Curt., white sapwood rot. R. I.
Diplodia aesculi Lév. (imperfect stage of Physalospora mutila (Fr.) Stevens?), on twigs. N. Y.
Glomerella cingulata (Ston.) Spauld. & Schrenk., leaf blight. Conn., Md., N. J., N. Y.
Guignardia aesculi (Pk.) V. B. Stewart, leaf blotch. General.
Haplosporella aesculi Cke. & Mass. (Sphaeropsis aesculi Faut. & Roum.), on pericarps. N. Y.
Nectria hippocastani Allesch. (Tubercularia carpigena Cda.), on pericarps. N. Y.
Phomopsis carposchiza Fairm., on nuts. N. Y.
Septoria hippocastani Berk. & Br., leaf spot. Pa., Vt.
Uncinula flexuosa Pk., powdery mildew. Widespread.

AESCULUS OCTANDRA Marshall. YELLOW BUCKEYE. Growth regions 20, 22, 23, 24, 25, 27, 28, 29.

Cercospora aesculina Ell. & Kellerm., leaf spot. W. Va.
Guignardia aesculi (Pk.) V. B. Stewart, leaf blotch. Ill., Iowa, Tex.
Polyporus squamosus (Huds.) Fr., white mottled heart rot. N. C.
Uncinula flexuosa (Pk.), powdery mildew. Widespread.

AESCULUS PAVIA L. RED BUCKEYE. Plant Growth Regions 20, 25, 27, 28, 29, 30.

Guignardia aesculi (Pk.) V. B. Stewart, leaf blotch. Ala., Miss.
Phymatotrichum omnivorum (Shear) Dug., root rot. Texas.
Uncinula flexuosa Pk., powdery mildew. Ala., Miss. (Widespread).

AILANTHUS

AILANTHUS ALTISSIMA (Miller) Swingle. AILANTHUS. Cult., also widely naturalized in Growth Regions 1,2,3,5,6,8,11,17, 20,22,24,25,27,28,29.

Armillaria mellea (Vahl.) Fr., mushroom root rot. N. Y.
Botryodiplodia ailanthi (Cke.) Sacc., on twigs. Ala., S. C., Tex.
Botryosphaeria ribis var. chromogena, Shear et al., on twigs. Md.
Camarosporium berkeleyanum (Lév.) Sacc., on twigs. N. Y.
Cercospora glandulosa Ell. & Kellerm., leaf spot. Widespread.

AILANTHUS ALTISSIMA -- Continued.

Colletotrichum tertium Grove, on twigs. S. C.
Coniothyrium insitivum Sacc., on twigs. Sapr.? Cosmopolitan.
Cytospora ailanthi Berk. & Curt., on twigs. Kans.
Daedalea unicolor Fr., butt rot. Occasional.
Diaporthe medusaea Nit. (Phomopsis ailanthi (Sacc.) Trav.), on twigs. Del., N. J., N. Y., Ohio.
Dimerosporium robiniae Gerard, black mildew. D. C.
Eutypella glandulosa (Cke.) Ell. & Ev., on branches. Cosmopolitan.
Fusarium lateritium Nees (conidial stage of Gibberella baccata (Wallr.) Sacc.), twig blight. Va.
Glocosporium ailanthi Dearn. & Barth., leaf spot. La., W. Va.
Guignardia ailanthi (Grove) Sacc., on twigs. S. C.
Leptothyrium petiolorum (Cke. & Ell.) Sacc., on petioles. N. J., Ohio.
Mycosphaerella ailanthi Ell. & Barth., on twigs. N. Y.
Nectria cinnabarina (Tode) Fr., die-back, canker. Kans., N. J., S. C.
N. coccinea (Pers.) Fr. (Cylindrocarpon candidum (Lk.) Wr.), trunk canker. Occasional.
Phyllosticta ailanthi Sacc., leaf spot. Va.
Physalospora obtusa (Schw.) Cke. (Sphaeropsis ailanthi Ell. & Barth.), on twigs & branches. Kans., Mich., N. Y.
Polyporus lacteus Fr. and P. versicolor (L.) Fr., wound rot, occasionally on living trees.
Schizophyllum commune Fr., wound rot. Kans., N. Y.
(Tubercularia ailanthi Cke. = T. vulgaris Tode): Nectria cinnabarina.
Verticillium albo-atrum Reinke & Berth., wilt. N. Y., Pa., Va.

ALBIZZIA

ALBIZZIA JULIBRISSIN Duraz. SILKTREE."MIMOSA". Cult., also naturalized in Southeastern States. Growth Regions 29,30.
Coniothyrium insitivum Sacc., on twigs.
Fusarium lateritium Nees (Gibberella baccata (Wallr.) Sacc.), on twigs. Pa., S.C., Va.
F. perniciosum Hepting, wilt. N. C., S. C.
Nectria cinnabarina (Tode) Fr., die-back, canker. D.C., N.C., Va.
Phomopsis sp., on twigs. S.C.
Tryblidiella rufula (Spreng.) Sacc. N.C.

ALBIZZIA LEBBEK Benth. LEBBEK. Cult., also naturalized in southern Fla.
Cephalcuros virescens Kunze, algal spot. Fla.
Phoma lathyrina Sacc., on pods. St. Croix & St. Thomas.
Phyllosticta divergens Sacc., on pods. P. R.

ALEURITES

ALEURITES spp.
Botryosphaeria ribis var. chromogena Shear, et al., branch, twig, and trunk cankers. Ga., La., T. H.
Cephalosporium sp., crown girdle. La.
Clitocybe tabescens (Scop.) Bres., root rot. Fla., La.
Corticium koleroga (Cke.) Hoehn., thread blight. Fla., N. C.
Dothiorella sp., nut rot. La.
Heterodera marioni (Cornu) Goodey, root knot. Ala., Miss.
Mollisia petiolorum E. K. Cash, on petioles. T. H.
Phymatotrichum omnivorum (Shear) Dug., root rot. Tex.
Phytomonas aleuritidis McCul. & Dem., bacterial leaf spot. La.
Sclerotium rolfsii Sacc., seedling blight. Tex.

ALEURITES CORDATA R. Br. JAPAN WOOD-OIL TREE. Cult.
Colletotrichum sp., leaf spot. Fla.
Nectria cinnaberina (Tode) Fr., die-back, canker. Miss.

ALEURITES FORDII Hemsl. CHINA WOOD-OIL TREE, TUNG-OIL TREE. Cult.
Cercospora sp. [aleuritidis miyake], leaf spot. Fla.
Colletotrichum sp., leaf spot. Fla.
Diplodia natalensis Pole-Evans, (associated with) crown rot. La., Tex.
Glocosporium aleuriticum Sacc., leaf spot. Miss.
Phyllosticta sp., leaf spot. Fla.
Phytomonas aleuritidis McCul. & Dem., bacterial leaf spot. Ga., La.

(Division of Mycology and Disease Survey, U. S. Bureau of Plant Industry).

SCAB DESTRUCTIVE ON WINTER WHEAT

A. G. Johnson

Wheat scab is especially destructive on winter wheat in parts of Maryland, Delaware, and Virginia this year.

While only a limited number of fields have been visited, the estimated losses range from 5 to 50 percent. Near Bethesda, Maryland, in a particularly fine 30-acre field of Leap wheat, which stood shoulder high with fine heads, there had been a prospect of at least 40 bushels per acre. The scab attack was particularly severe. The owner thought he might not get more than 10 bushels per acre. However, further estimates indicated that he would probably get at least twice that.

In each case noted where the losses were high the wheat was on cornland and there was an abundance of perithecia of Gibberella saubinetii on the corn stubble and scattered stalks on the surface of the soil. The cool weather with occasional rains through May and early June was favorable for the development of the fungus on the corn stubble and stalks, so that the inoculum was abundant when the wheat came into bloom.

(Division of Cereal Crops and Diseases).